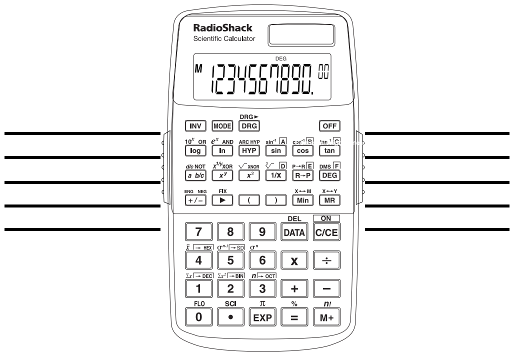
Cat. No. 65-1081

Owner's Manual

Dual-Powered Scientific Calculator



RadioShack®

FEATURES

Your RadioShack Dual Powered Scientific Calculator is designed with the latest in scientific calculator technology for a variety of scientific, statistics, and computer uses. You can perform 67 functions in three expressions—floating decimal, scientific, and engineering. Its 10-digit liquid-crystal display is specially designed to provide the best readability under changing or poor lighting conditions.

Its other features include:

Full-Function Display — displays a 10-digit mantissa with sign and a two-digit exponent with sign.

Fractional Number Calculation — you can enter and manipulate fractions, improper fractions, and mixed numbers.

Wide Calculation Range — allows calculations with results between $1 \times \pm 10^{-99}$ and $\pm 9.999999999 \times 10^{99}$, and 0.

Advanced Math Functions — including:

- mixed and improper fractions
- up to 15 levels of parentheses
- binary, octal, decimal, and hexadecimal calculation modes

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- common and natural logarithms
- advanced statistics functions
- trigonometric functions
- logic calculations

Independent Memory — lets you store subtotals into memory and then add to or recall the memory for additional calculations.

Flip-Out Stand — lets you tilt the display for better viewing.

Auto Power-Off — saves battery life by shutting off after about 8 minutes after you finish using it.

Algebraic Operation — lets you enter calculations exactly as they are written.

Many of your calculator's keys have more than one function. To perform the function printed on the key, press the key. To use the function printed in yellow above the key, first press **INV** then press the key.

Note: This manual gives complete instructions on how to use your calculator's functions. However, it does not teach math. Refer to your local library for books about basic math and trigonometric functions.

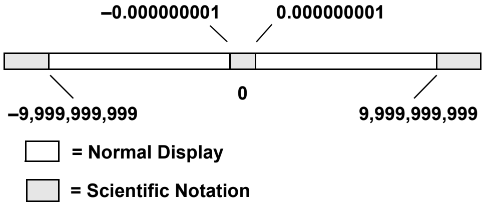
CONTENTS

Basic Information **5**
  Display Formats 5
  Algebraic Entry Method 6
  Calculator Modes 7
Operation **10**
  Turning the Calculator On and Off 10
  Correcting Entry Errors 10
  Calculation Errors 10
  Using Parentheses 11
  Using Memory 12
Function Reference **13**
Examples **20**
  Mixed Addition, Subtraction, Multiplication, Division 20
  Constant Calculations 20
  Logical Calculations 21
  Powers and Roots 24
  Percentage Calculations 24
  Degree/Radians/Grads Conversions 25
  Degrees/Minutes/ Seconds Conversions 26
  Polar/Rectangular Conversions 28
  Complex Numbers 30
  Log 32
  Decimal/Hexadecimal/Octal/Binary Calculations and Conversions 32
  Statistics Calculations 34
Calculation Range **36**
Care **40**
  Replacing the Batteries 41
Specifications **42**

BASIC INFORMATION

DISPLAY FORMATS

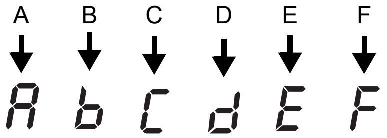
Your calculator switches between normal number display and scientific notation depending on the size of the number it is displaying. The calculator displays decimal numbers from $-9.999999999\times10^{99}$ to -1×10^{-99} and from $+1\times10^{-99}$ to $+9.999999999\times10^{99}$.



In scientific notation, a number is displayed as a base value (mantissa) times 10 raised to a power (exponent). For example, in scientific notation the number 95,000,000,000 is expressed as 9.5×10^{10}, which appears as **`DEG 9.5`** ^{10}.

Note: When the absolute value is less than 1×10^{-99}, the calculator assumes the value is 0.

The hexadecimal numbers A–F are displayed as follows:



ALGEBRAIC ENTRY METHOD

Your calculator uses the algebraic method for calculator entries, which means that it follows common rules of algebra when it performs the calculations you enter. These rules assign a priority to each function. The calculator performs calculations from the highest to the lowest priority, as shown in the following chart. Single-value functions and calculations in parentheses have higher priority than basic functions such as +, –, ×, and ÷. During calculations, lower priority calculations are stored in the calculator's stack memory. Up to six levels of calculations can be stored in stack memory.

Priority	Operations
1 (Highest)	Single-value functions ($\boxed{\sqrt{x}}$, $\boxed{1/x}$, $\boxed{\sin}$, and so on)
2	Calculations within parenthesis
3	Two-value functions ($\boxed{x^y}$, $\boxed{x^{1/y}}$)
4	Multiplication and Division
5 (Lowest)	Addition and Subtraction

In some cases, these rules might cause the calculator to give you a result other than what you expect. For example, you know that the square of a negative number is always positive. However, if you enter – 3 x^2 =, **DEG –9** appears.

This happens because x^2 has a higher priority than –. Rather than calculating "the square of negative 3," you are calculating "the negative of 3 squared." To square negative 3, you need to either press = before you press x^2, enclose – 3 within parentheses, or enter the calculation as 3 +/– x^2.

CALCULATOR MODES

Your calculator can operate in several modes at once. These modes are shown by special indicators on the display. This table summarizes each mode and indicates how you select it.

Indicator	Meaning
M	A value is stored in memory. (M+) (See "Using Memory" on Page 12.)
E	A calculation overflow has occurred. (See "Calculation Errors" on Page 10.)

Indicator	Meaning
`SD`	The calculator is in the statistics mode. (MODE 5)
`INV`	You pressed INV.
`HYP`	You pressed HYP for the hyperbolic form of the function.
`DEG`	The calculator is in the degrees mode for trigonometric calculations. (DRG)
`RAD`	The calculator is in the radians mode for trigonometric calculations. (DRG)
`GRAD`	The calculator is in the grad mode for trigonometric calculations. (DRG)
`( )`	At least one level of parenthesis is open. ((or))
`BIN`	The calculator is set to perform binary calculations. (MODE 2)
`OCT`	The calculator is set to perform octal calculations. (MODE 3)
`HEX`	The calculator is set to perform hexadecimal calculations. (MODE 4)

Notes:

- The calculator is always in either the decimal, binary, octal, hexadecimal, or statistics mode.
- No special indicator appears when the calculator is in the decimal mode.
- When the calculator is in the statistics or decimal mode, it is also in either the degrees, radians, or grad mode.

OPERATION

TURNING THE CALCULATOR ON AND OFF

Press **ON** (**C/CE**) to turn on the calculator.

If you do not press a button for about 6–8 minutes, the calculator automatically turns off. To turn it off sooner, press **OFF**.

Note: The calculator loses any pending calculations when it turns off. However, any memory contents are saved.

CORRECTING ENTRY ERRORS

If you enter an incorrect digit, you can erase it by pressing ►. Each time you press ►, you erase the rightmost digit. To erase an entire entry, press C/CE.

If you press an incorrect function key or key sequence, you must re-enter the calculation from the beginning.

CALCULATION ERRORS

E appears in the lower left corner of the display if you:

- perform a calculation that results in a value of 1×10^{100} or larger.
- try to divide a number by zero.
- try to calculate the square root of a negative number.
- (in statistics calculation mode) attempt to obtain a single-variable calculation without first entering data.
- exceed 3 levels of nested parentheses in statistics mode, or use more than 15 open parentheses.
- in statistics calculation mode, try to find $\overline{x}$, σ^{n}, σ^{n-1}, when n = 0.
- exceed a function's calculation range.

To clear an error, press C/CE.

USING PARENTHESES

The calculator performs calculations according to the priority of the functions you enter (see "Algebraic Entry Method" on Page 6). You can change the order in which the calculator performs calculations by enclosing parts of the entry within parentheses. The calculator performs calculations within parentheses first. Press (to open parentheses and) to close them.

USING MEMORY

You can store running totals or other intermediate values in the calculator's memory. When a number is stored in the calculator's memory, `M` appears on the left of the display.

You Enter	You See	Memory Contents	Results
123	`123.`	0	Enters 123
M+	`M` `123.`	123	Stores 123 in memory
456 **M+**	`M` `456.`	579	Adds 456
MR	`M` `579.`	579	Recalls memory
789 **Min**	`M` `789.`	789	Stores 789 in memory
369	`M` `369.`	789	Enters 369
INV **X↔M**	`M` `789.`	369	Exchanges display number with memory number
C/CE	`M` `0.`	369.	Clears display
Min	`0.`	0	Clears memory

FUNCTION REFERENCE

This section provides a brief description of all the calculator's functions.

You Press	Description
ON	Turns on the calculator.
C/CE	Clears the last entry. (You must press C/CE before you enter any function.)
OFF	Turns off the calculator. All pending operations are lost, but memory contents are saved.
►	Erases the rightmost digit from a displayed numeral.
EXP	Enters an exponent.
INV	Selects the functions printed in yellow above a key.
MODE	Selects the calculation mode printed in white above certain keys.
+	Performs addition.
−	Performs subtraction.
×	Performs multiplication.
÷	Performs division.
=	Totals all pending operations.

You Press	Description
+/–	Changes the sign of the displayed number.
M+	Totals all pending operations and adds the result to memory.
MR	Recalls the value stored in memory.
Min	Replaces the memory contents with the displayed number.
INV **X⟷M**	Exchanges the displayed number with the number in memory.
DRG	Switches between degrees, radians, and grads for trigonometric functions.
INV **DRG►**	Switches between degrees, radians, and grads for trigonometric functions; converts the displayed number between these different units.
HYP	Press before a trigonometric function to perform the hyperbolic form of the function.
INV **HYP**	Press before a trigonometric function to perform the arc hyperbolic form of the function.
sin	Calculates the sine of the displayed number.
INV **sin**$^{-1}$	Calculates the inverse (arc) sine of the displayed number.

You Press	Description
cos	Calculates the cosine of the displayed number.
INV cos^{-1}	Calculates the inverse (arc) cosine of the displayed number.
tan	Calculates the tangent of the displayed number.
INV tan^{-1}	Calculates the inverse (arc) tangent of the displayed number.
ln	Calculates the natural log base *e* of the displayed number.
INV e^x	Calculates the antilogarithm base *e* of the displayed number.
INV 10^x	Calculates the antilogarithm base 10 of the displayed number.
log	Calculates the log base 10 of the displayed number.
x^2	Calculates the square of the displayed number.
x^y	Calculates the *y* power of *x*.
INV $\sqrt{\ }$	Calculates the square root of the displayed number.
INV $\sqrt[3]{\ }$	Calculates the cube root of the displayed number.

You Press	Description
1/x	Calculates the reciprocal of the displayed number.
(	Opens a parenthetical expression.
)	Closes a parenthetical expression.
INV SCI	Changes the displayed number from floating decimal to engineering (scientific) notation.
DEG	Converts a number entered as DD.MMSSSS (degrees, minutes, and seconds) to standard decimal notation.
INV DMS	Converts a decimal number to degree-minute-second notation (DD.MMSSSS).
a b/c	Enters a proper or improper fraction.
INV d/c	Toggles between a mixed number and an improper fraction.
R→P	Converts the x and y values entered with the INV, X↔Y, and R→P keys into polar coordinates (***r*** and θ) and displays the radius. Press INV X↔Y to see the angle.
X↔Y	Swaps the immediate pending total with the number on the display.

You Press	Description
INV X↔Y	In the standard calculation mode, recalls or enters either the angle (for a polar coordinate) or the y value (for rectangular coordinates).
INV %	Performs percentage calculations.
INV π	Enters the value for pi.
INV FLO	Selects the floating decimal mode.
MODE →BIN	Converts the displayed number to binary and selects the binary mode.
MODE →OCT	Converts the displayed number to octal and selects the octal mode.
MODE →DEC	Converts the displayed number to decimal and selects the decimal mode.
INV FIX	Specifies the number of decimal digits in the mantissa of the decimal calculation results.
MODE →HEX	Converts the displayed number to hexadecimal and selects the hexadecimal mode.
A	In the hexadecimal mode, enters the hex digit A.
B	In the hexadecimal mode, enters the hex digit B.

You Press	Description
C	In the hexadecimal mode, enters the hex digit C.
D	In the hexadecimal mode, enters the hex digit D.
E	In the hexadecimal mode, enters the hex digit E.
F	In the hexadecimal mode, enters the hex digit F.
MODE →SD	Selects the statistics calculation mode.
DATA	In the statistics mode, enters the displayed value as a data item.
INV n	Recalls the number of data values.
INV n!	Calculates the factorial of the displayed number.
INV σ^{n}	In the statistics mode, recalls the population standard deviation.
INV σ^{n-1}	In the statistics mode, recalls the sample standard deviation.
INV $\bar{x}$	In the statistics mode, recalls the mean of the entered data.
INV Σx	In the statistics mode, recalls the sum of the entered data values.

You Press	Description
INV Σx²	In the statistics mode, recalls the sum of the squares of the data.
DEL	Variable correction key.
NEG	Changes the complement in the binary, octal, and hexadecimal modes.
ENG	Selects the engineering exponential mode.
AND	Product of propositions: produces 1 when all input values are 1.
OR	Sum of propositions: produces 1 when one or more input values are 1.
XOR	Exclusive sum of propositions: produces 0 when all input values are either 1 or 0.
XNOR	Opposite of **XOR**; combination of **XOR** and **NOT**.
NOT	Negation: produces the opposite values of the input.

EXAMPLES

MIXED ADDITION, SUBTRACTION, MULTIPLICATION, DIVISION

	You Press	You See
$3 \times (9 + \frac{12}{4})=$	**3 × (9 + 12 a b/c 4) =**	`36.`
$3 \times \frac{9+12}{4} =$	**3 × (9 + 12) ÷ 4 =**	`15.75`
$\frac{-37 \times 4}{12 + 2} =$	**37 +/– x 4 ÷ (12 + 2 =**	`–10.57142857`

Note: If a closed parenthesis falls at the end of an equation, you do not have to enter it.

CONSTANT CALCULATIONS

The constant feature lets you perform repetitive calculations without re-entering a constant value and function each time. The constant is automatically set when you perform a calculation with addition, subtraction, multiplication, division, or two-value powers or roots.

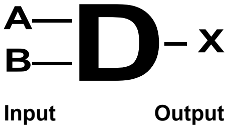
	You Press	You See	Constant
2 + 3 = 5	**2 + 3 =**	5.	3
4 + 3 = 7	**4 =**	7.	
1 – 2 = –1	**1 – 2 =**	-1.	2
2 – 2 = 0	**2 =**	0.	
3 × 2 = 6	**3 × 2 =**	6.	2
4 × 2 = 8	**4 =**	8.	
6 ÷ 3 = 2	**6 ÷ 3 =**	2.	3
9 ÷ 3 = 3	**9 ÷ 3 =**	3.	

LOGICAL CALCULATIONS

You can use the calculator to perform logical calculations, also known as Boolean algebra. The variables in a logical calculation have only two values — true or false. True values are expressed as 1, and false values are expressed as 0, corresponding to binary expression.

To enter logical calculations, press **MODE** then **→ BIN** to put the calculator in binary mode.

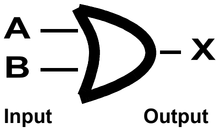
AND Calculation



Truth Table

Input		Output
A	B	X
1	1	1
1	0	0
0	1	0
0	0	0

OR Calculation

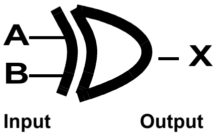


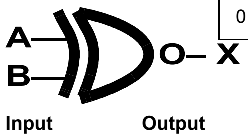
Truth Table

Input		Output
A	B	X
1	1	1
1	0	1
0	1	1
0	0	0

When entering an XNOR or NOT calculation, the last digit of the displayed number is the result, rather than the entire number.

XOR, XNOR Calculation

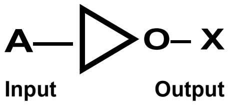




Truth Table

Input		Output	
A	B	X OR	X NOR
1	1	0	1
1	0	1	0
0	1	1	0
0	0	0	1

NOT Calculation



Truth Table

Input A	Output X
1	0
0	1

POWERS AND ROOTS

	You Press	You See
$5^2 = 25$	**5 x^2**	`25.`
$\sqrt{36}$ = 6	**36 INV √‾**	`6.`
$8^4 = 4096$	**8 x^y 4 =**	`4096.`
$\sqrt[4]{45}$ = 2.590020064	**45 INV $x^{1/y}$ 4 =**	`2.590020064`

PERCENTAGE CALCULATIONS

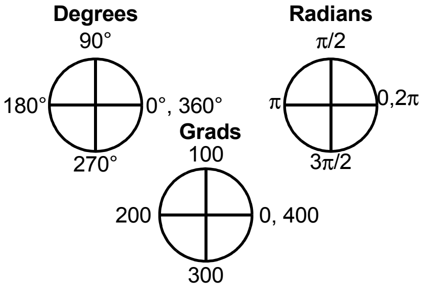
The calculator easily performs add-on and discount percentages.

	You Press	You See
12% added to 145 is 162.4 (the add-on amount is 17.40)	**145 + 12 INV %**	`17.4`
	=	`162.4`

	You Press	You See
15% discounted from 97 is 82.45 (the discount amount is 14.55)	**97 – 15 INV %**	14.55
	=	82.45
4% of 1208 is 48.32	**1208 × 4 INV %**	0.04
	=	48.32

DEGREE/RADIANS/GRADS CONVERSIONS

The calculator performs trigonometric functions (sine, cosine, and so on) using either degrees, radians, or grads as the basic unit. Because different applications use different basic units, the calculator can convert between the different units.



To select a unit, repeatedly press DRG until that unit's indicator (**DEG**, **RAD**, or **GRAD**) appears at the top of the display.

To convert between units, set the calculator to the first unit and enter the value. Then repeatedly press INV DRG▸ until the calculator displays the target unit. The displayed value changes to the equivalent value of the target unit.

45° = x rad,
x grad?

You Press	You See
* DRG	DEG
45 INV DRG ▸	RAD 0.785398163
INV DRG ▸	GRAD 50.

*Repeatedly press **DRG** until **DEG** appears.

DEGREES/MINUTES/ SECONDS CONVERSIONS

Some calculations are easier to enter as degrees, minutes, and seconds. However, the trigonometric functions expect values to be in decimal equivalents. One minute is 1/60 of a degree, and 1 second is 1/60 of a minute.

Rather than convert degrees, minutes, and seconds to a decimal number by hand, you can enter the value in the form DD.MMSSss (DD=degrees, MM=minutes, SS=seconds, ss=hundredths of a second) and then quickly convert the value to its decimal equivalent.

	You Press	You See
12°30' = x decimals?	**12.3 DEG**	`12.5`
17°6'25" = x decimals?	**17.0625 DEG**	`17.10694444`

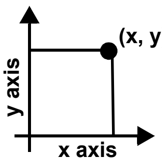
After you perform a calculation, it is often much easier to understand the result if it is presented as degrees, minutes, and seconds, rather than as a decimal number. The calculator lets you easily convert decimal numbers to degree, minute, and second representation.

	You Press	You See
32°12'27" + 14°53'40" =	**32.1227 DEG +**	`DEG` `32.2075`
	14.5340 DEG	`14.89444444`
	=	`47.10194444`
	INV DMS	`47.°06'07"`

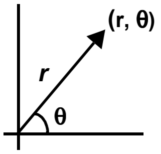
POLAR/RECTANGULAR CONVERSIONS

The calculator easily converts between polar and rectangular coordinates. Be sure to select the correct angular units (degrees, radians, or grads) before you begin calculations.

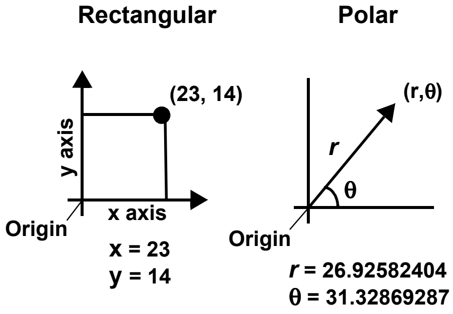
Rectangular



Polar



To store and recall polar rectangular units, press R→P and INV X↔Y.



The point (23, 14) is at a polar coordinate how many units away from the origin, and at what angle?

You Press	You See
* DRG	`DEG`
23 INV X↔Y	`0.`
14 R→P	`26.92582404`
INV X↔Y	`31.32869287`

*Repeatedly press **DRG** until `DEG` appears.

A point located 28 units away from the origin at an angle of 108° falls at what x, y coordinates?

You Press	You See
* DRG	`DEG`
28 INV X↔Y	`0.`
108 INV P→R	`–8.652475843`
INV X↔Y	`26.62958246.`

*Repeatedly press **DRG** until `DEG` appears.

Note: You can recall the x or radius value by pressing R→P or INV P→R. You can recall results with R→P or INV X↔Y until you enter a number, press a function key, change the calculation mode, or clear the display.

COMPLEX NUMBERS

The calculator uses complex numbers as distances in real and imaginary directions. Complex numbers can also be represented as magnitudes aimed at an angle (polar form). The polar form is r – θ, where r is the magnitude and θ is the angle from the real axis. The units of θ can be degrees, radians, or grads.

You can convert between both imaginary and real polar rectangular coordinates.

To convert a polar complex number to rectangular form:

1. Select the desired angle units (degrees, radians, or grads).
2. Enter the magnitude and press INV X↔Y.
3. Enter the angle and press INV P→R.
4. Press INV X↔Y. The real part appears.
5. Press INV P→R to see the imaginary part.

To convert a rectangular complex number to polar form:

1. Select the desired angle units.
2. Enter the real part and press INV X↔Y.
3. Enter the imaginary part and press R→P. The magnitude appears.
4. Press INV X↔Y. The angle appears.

LOG

You can use the calculator to perform both common and natural log calculations.

	You Press	You See
† log 123 =	**123 log**	`2.089905111`
‡ ln 123 =	**123 ln**	`4.812184355`

† common log

‡ natural log

DECIMAL/HEXADECIMAL/OCTAL/BINARY CALCULATIONS AND CONVERSIONS

The calculator lets you easily calculate in base 10 (decimal), base 16 (hexadecimal), base 8 (octal), and base 2 (binary). It can also convert numbers from one base to another.

	You Press	**You See**
$1011_2 + 1001_2 =$	**MODE → BIN**	BIN
	1011 + 1001 =	BIN 10100.
$436_8 + 243_8 =$	**MODE → OCT**	OCT
	436 + 243 =	OCT 701.
$27_{16} \times 4E_{16} =$	**MODE → HEX**	HEX
	27 × 4 E =	HEX bE2.
$12_{10} + 10010_2 - 32_8 =$	**MODE → DEC**	0.
	12 +	12.
	MODE → BIN	BIN 1100.
	10010 –	11110.
	MODE → OCT	36.
	32 =	OCT 4.

STATISTICS CALCULATIONS

The calculator can perform single-variable statistics calculations.

To enter a series of data:

1. Press MODE →SD to select the statistics mode.
2. Press C/CE to clear the display.
3. Enter a data value, then press DATA. Repeat this step for each data value.

Notes:

- If you enter an incorrect data value, before you press DATA, simply press C/CE then enter the correct data value and press DATA.
- If you enter an incorrect data value and then press DATA, re-enter the value and press INV DEL to remove the data value. The calculator automatically calculates and stores the mean, the sum of all data values, the number of data values, the sum of the squares of all data values, the population standard deviation, and the sample standard deviation.

To Recall	Press
Number of data values	INV n
The sum of all data values	INV Σx
The mean of all data values	INV $\bar{x}$
The sum of squares	INV Σx^2
Sample standard deviation	INV σ^{n-1}
Population standard deviation	INV σ^{n}

CALCULATION RANGE

The calculator lets you enter numbers between, and displays values up to, $\pm 1 \times 10^{-99}$ to 0 and from 0 to $\pm$ 9.999999999 $\times 10^{-99}$.

Note: When the absolute value is less than 1×10^{-99}, the calculator assumes the value is 0.

The calculator's scientific and special functions ranges are shown in this chart.

Function	Input Range	
sin x cos x tan x	**DEG:** **RAD:** **GRAD:**	$\lvert x\rvert < 1 \times 10^{10}$ $\lvert x\rvert < \frac{\pi}{180} \times 10^{10}$ $\lvert x\rvert < \frac{10}{9} \times 10^{10}$
	In tan x, the following cases are excluded:	
	DEG: **RAD:** **GRAD:**	$\lvert x\rvert \neq 90 \times (2n+1)$ $\lvert x\rvert \neq \frac{\pi}{2} \times (2n+1)$ $\lvert x\rvert \neq 100 \times (2n+1)$
$\sin^{-1}$ x $\cos^{-1}$ x	$-1 \leq x \leq 1$	
$\tan^{-1}$ x	$\lvert x\rvert < 1 \times 10^{100}$	
ln x log x	$1 \times 10^{-99} \leq x < 1 \times 10^{100}$	
e^x	$-1 \times 10^{100} < x < 230.2585092$	

Function	Input Range
10^x	$-1 \times 10^{100} < x < 100$
x^y	$x > 0: -1 \times 10^{100} < y \log x < 100$ $x = 0: 0 < y < 1 \times 10^{100}$ $x < 0$: y: integer or $\frac{1}{y}$:odd number $(y \neq 0)$, and $-1 \times 10^{100} < y \log\|x\| < 100$
$x^{1/y}$	$x > 0: -1 \times 10^{100} < \frac{1}{y} \log x < 100$ $(y \neq 0)$ $x = 0: 0 < y < 1 \times 10^{100}$ $x < 0$: y:odd number or $\frac{1}{y}$: integer $(y \neq 0)$, and $-1 \times 10^{100} < \frac{1}{y} \log\|x\| < 100$
HYP sin x HYP cos x HYP tan x	$-227.9559242 \leq x \leq 230.2585092$
HYP sin x $^{-1}$ x	$\|x\| < 1 \times 10^{50}$
HYP cos x $^{-1}$ x	$1 \leq x < 1 \times 10^{50}$
HYP tan x^{-1} x	$\|x\| < 1$
$\sqrt{x}$	$0 \leq x < 1 \times 10^{100}$
$\sqrt[3]{x}$	$\|x\| < 1 \times 10^{100}$

Function	Input Range
x^2	$\lvert x \rvert < 1 \times 10^{50}$
$\frac{1}{x}$	$\lvert x \rvert < 1 \times 10^{100}$ $(x \neq 0)$
n!	$0 \le x \le 69$
→ DEG → DMS	$\lvert x \rvert < 1 \times 10^{50}$, $\lvert x \rvert < 1 \times 10^{50}$ The function remains ineffective for any number outside this range (but the error symbol **E** does not appear).
x, y → r, θ	$\lvert x \rvert < 1 \times 10^{50}$, $\lvert Y \rvert < 1 \times 10^{50}$ $x^2 + y^2 < 1 \times 10^{100}$ $\frac{x}{y} < 1 \times 10^{100}$
r, θ → x, y	$0 \le r < 1 \times 10^{100}$ (θ has the same conditions as x of sin x and cos x.)
DRG ▸	DEG → RAD: $\lvert x \rvert < 1 \times 10^{100}$ RAD → GRAD: $\lvert x \rvert \le 1.5707963 \times 10^{98}$ GRAD → DEG: $\lvert x \rvert < 1 \times 10^{100}$
→ DEC	DEC: $\lvert x \rvert < 9999999999$
→ BIN	BIN: $1000000000 \le x \le 1111111111$ $0 \le x \le 1111111111$
→ OCT	OCT: $4000000000 \le x \le 7777777777$ $0 \le x \le 3777777777$

Function	Input Range
→ HEX	HEX: FDABF41C01 $\leq x \leq$ FFFFFFFFFF 0 $\leq x \leq$ 2540BE3FF
Complex Numbers	(A +Bi) + (C + Di) (A +Bi) – (C + Di) (A +Bi) × (C + Di) (A +Bi) ÷ (C + Di)
Addition/ Subtraction	$\lvert A \pm C\rvert < 1 \times 10^{100}$ $\lvert B \pm D\rvert < 1 \times 10^{100}$
Multiplication	If the result or intermediate result of the calculation (AC – BD) or (AD + BC) is assumed to be $x : \lvert x\rvert < 1 \times 10^{100}$
Division	If the result or intermediate result of the calculation $\frac{AC + BD}{C^2 + D^2}$ or $\frac{BC - AD}{C^2 + D^2}$ is assumed to be $x : \lvert x\rvert < 1 \times 10^{100}$ (where $(C^2 + D^2) \neq 0$
Statistics	DATA, CD: $\lvert x\rvert < 1 \times 10^{50}$ $\lvert \Sigma x\rvert < 1 \times 10^{100}$ $\lvert n\rvert < 1 \times 10^{100}$ $\Sigma x^2 < 1 \times 10^{100}$ $\bar{x} : n \neq 0$ $S : 0 \leq \frac{\Sigma x^2 - n\bar{x}^2}{n-1} < 1 \times 10^{100}$, $n > 1$ $\sigma : 0 \leq \frac{\Sigma x^2 - n\bar{x}^2}{n} < 1 \times 10^{100}$, $n > 0$

CARE

To enjoy your calculator for a long time:

- Keep the calculator dry. If it gets wet, wipe it dry immediately.
- Use and store the calculator only in normal temperature environments.
- Handle the calculator gently and carefully. Do not drop it.
- Keep the calculator away from dust and dirt.
- Wipe the calculator with a damp cloth occasionally to keep it looking new.

Modifying or tampering with the calculator's internal components can cause a malfunction and invalidate its warranty. If your calculator is not performing as it should, take it to your local RadioShack store for assistance.

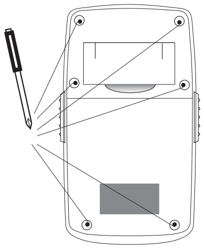
REPLACING THE BATTERIES

The calculator comes with one 389A-type button-cell battery. When the display dims, follow these steps to replace the battery. For the best performance and longest life, we recommend a RadioShack alkaline battery.

Warnings:

- Keep button-cell batteries away from children. Swallowing a button-cell battery can be fatal.
- Dispose of old batteries promptly and properly. Do not burn or bury them.

1. Use a small Phillips screwdriver to remove the screws from the back cover.
2. Lift off the back cover.
3. Remove the old battery.



4. Install the new battery with its positive (+) side facing up.
5. Replace the cover and secure it with the screws.

SPECIFICATIONS

Display Capacity	10 Digits Full-Floating or Mantissa 10 Digits with Exponent 2 Digits Plus 2 Negative Code Digits
Components	CMOS/LSI
Display	Liquid Crystal (FEM Type)
Power Supply	Dual Power Battery and Solar 1.5V (DC) Alkaline Button-Cell 389A × 1
Battery Life	About 1800 hours when used 2 hours a day
Power Consumption	17.5 mW
Operating Temperature	32° to 104°F (0° to 40°C)
Dimensions (HWD) without Cover:	$5\,^{13}/_{16} \times 3\,^{1}/_{4} \times {}^{9}/_{16}$ in ($148 \times 83 \times 14$ mm)
Weight with Batteries	3.75 oz (106 g)

Specifications are typical; individual units might vary. Specifications are subject to change and improvement without notice.

NOTES

Limited One-Year Warranty

This product is warranted by RadioShack against manufacturing defects in material and workmanship under normal use for one (1) year from the date of purchase from RadioShack company-owned stores and authorized RadioShack franchisees and dealers. EXCEPT AS PROVIDED HEREIN, RadioShack MAKES NO EXPRESS WARRANTIES AND ANY IMPLIED WARRANTIES, INCLUDING THOSE OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED IN DURATION TO THE DURATION OF THE WRITTEN LIMITED WARRANTIES CONTAINED HEREIN. EXCEPT AS PROVIDED HEREIN, RadioShack SHALL HAVE NO LIABILITY OR RESPONSIBILITY TO CUSTOMER OR ANY OTHER PERSON OR ENTITY WITH RESPECT TO ANY LIABILITY, LOSS OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY USE OR PERFORMANCE OF THE PRODUCT OR ARISING OUT OF ANY BREACH OF THIS WARRANTY, INCLUDING, BUT NOT LIMITED TO, ANY DAMAGES RESULTING FROM INCONVENIENCE, LOSS OF TIME, DATA, PROPERTY, REVENUE, OR PROFIT OR ANY INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, EVEN IF RadioShack HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Some states do not allow the limitations on how long an implied warranty lasts or the exclusion of incidental or consequential damages, so the above limitations or exclusions may not apply to you.

In the event of a product defect during the warranty period, take the product and the RadioShack sales receipt as proof of purchase date to any RadioShack store. RadioShack will, at its option, unless otherwise provided by law: (a) correct the defect by product repair without charge for parts and labor; (b) replace the product with one of the same or similar design; or (c) refund the purchase price. All replaced parts and products, and products on which a refund is made, become the property of RadioShack. New or reconditioned parts and products may be used in the performance of warranty service. Repaired or replaced parts and products are warranted for the remainder of the original warranty period. You will be charged for repair or replacement of the product made after the expiration of the warranty period.

This warranty does not cover: (a) damage or failure caused by or attributable to acts of God, abuse, accident, misuse, improper or abnormal usage, failure to follow instructions, improper installation or maintenance, alteration, lightning or other incidence of excess voltage or current; (b) any repairs other than those provided by a RadioShack Authorized Service Facility; (c) consumables such as fuses or batteries; (d) cosmetic damage; (e) transportation, shipping or insurance costs; or (f) costs of product removal, installation, set-up service adjustment or reinstallation.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

RadioShack Customer Relations,
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